

DONE

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FRV *Clupea*

Cruise 11/89

11CR89

Report

18 September - 6 October 1989

Personnel

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A Weetman	ASO
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Objectives

1. To determine trawl catch rates, sex and size composition, growth and maturity of *Nephrops* on grounds in the Moray Firth, the Noup and the North Minch.
2. To study *Nephrops* distribution in relation to sediment characteristics.
3. To obtain sediment samples for particle size, organic carbon and faunal analysis.
4. To undertake a photographic survey of selected *Nephrops* grounds.

Narrative

Clupea left Aberdeen on 18 September and made passage to the Moray Firth. A trawl and TV survey was carried out on selected grounds on 18 and 19 September. Thereafter, SW gales kept *Clupea* weatherbound in Buckie until an improvement in conditions enabled her to steam north to Stromness and thence to the Noup where she arrived on 22 September. A trawl, grab and TV survey was undertaken in this area before proceeding to the North Minch. A programme of trawl, TV and grab sampling was then carried out on all major *Nephrops* grounds in the North Minch. As time allowed a limited programme of sampling was undertaken on Maxwell Bank and in Sleet Sound in the South Minch.

Clupea docked at Kyle of Lochalsh at 1800 on 5 October; equipment was off loaded, and the scientific staff left the ship at Kyle on 6 October.

Results

Trawling

A total of 33 one hour hauls were made, 4 using the 22 mm prawn trawl, BT118A, and 29 using the 35 mm prawn trawl, BT149C. *Nephrops* catches were generally good, ranging from 0.2 kg/hr to 123.5 kg/hr, the mean catch rate being 16.7 kg/hr. The largest catches, those in excess of 40 kg/hr were made at the Shiant Isles, Dunvegan and at Maxwell Bank.

Details of the *Nephrops* catches from all areas are shown in Table 1.

Samples of the *Nephrops* were examined for ovary maturity, and evidence of pre-moult frequency. Shrimps, *Dichelopandalus bonnieri* (25 kg/hr) were taken at the north-east of Skye and *Pandalus montagui* (44 kg/hr) at Clash Deep.

While squids, mainly *Loligo* sp. were taken in only a third of all hauls, the octopus *Eledone cirrhosa* was present in most hauls with catch rates ranging from 0.4 kg/hr to 28.0 kg/hr.

Fish catches consisted primarily of small whiting and pout, except in the Moray Firth, where small herring and sprat predominated.

Anglers, *Lophius piscatorius*, were taken in most hauls, up to 20 per haul in the North Minch, *L. budegassa* constituted some 3% of the angler catch. An interesting feature of the fish catches, was the occurrence of the boar fish, *Capros aper*, in several hauls, including one at the Noup.

Grab sampling

Sediment samples were taken using a Day grab from 2 stations along the track of selected trawl stations. The stations were selected to fill in gaps in the data base.

Photographic survey

A sledge carrying still and video cameras was towed over selected stations, and photographic material obtained for later analysis.

G Howard
8 January 1990

Seen in draft: G B Calder

TABLE 1

Carpace length and sea composition of *Nephrops* catches by area

CL mm	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	MCL	Total
Horay Firth															
Males			1	8	5									23.9	14
Females			1	7	3	1			1					26.0	13
Noup															
Males					32	35	58	18	3					34.9	146
Females				1	24	6	4	4	1	1				31.7	41
North Minch															
Males	1	2	62	899	1784	1430	643	169	55	16	8	7	1	30.1	5077
Females		3	120	1145	1116	438	229	64	13					27.1	3128
South Minch															
Males		1	33	242	279	126	62	15	5					27.5	763
Females			47	341	254	27	5	1						24.6	675

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